File: SAFE

Approved For Release 2003/12/18 : CIA-RDP84-00933R000500090024-4

25 February 1981

MEMORANDUM FOR: Deputy Director of Data Processing
Chief, Consolidated SAFE Project Office
Deputy Director for Processing

FROM: Bruce T. Johnson
Director of Data Processing

SUBJECT: SAFE Terminals

STAT

1. Attached is a copy of an informal memo from [redacted] to Bill Hart raising some concerns about our commitment to the Delta Data. I could have wished that he had elected to bring these concerns directly to us, but Bob is still feeling his way in his new role and when he asked Bill how he ought to proceed, Bill suggested this approach. I urge you not to invest any energy in questioning the approach but instead concentrate on the concerns he expresses.

STAT 2. It seems to me that as far as SAFE is concerned, the die has been cast. What [redacted] has apparently failed to recognize is that TRW's design called for three levels of hardware starting with a smart terminal. Whether that terminal be a Delta Data or brand X, its characteristics would be an integral part of SAFE. Now that we have moved as far as we have in the direction of the Delta Data, I believe change must inevitably delay the SAFE IOC. I would like to have an estimate of the extent of that delay but I believe it would be considerable.

STAT 3. [redacted] concern about the availability of externally developed software is legitimate and has been the subject of ~~important~~ discussions here in ODP. In this, as in so many other things, we end up making judgments about the trade-offs.

STAT 4. We are scheduled for a meeting on the subject with Hart, [redacted] on Thursday afternoon, 26 February at 1300 hrs. I suggest that [redacted] and someone from CSPO STAT accompany me to the meeting and I am open to suggestions about who else should go. I would like your comments, either orally or written, before I go to that meeting and I suggest that those who will be attending with me join me for lunch in the cafeteria on [redacted] that we may talk about the meeting immediately if lunch is not convenient, please advise.

ILLEGIB [redacted]

/s/ Bruce T. Johnson

ILLEGIB [redacted]

Bruce T. Johnson

Attachment

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O/D/ODP/B.Johnson:ee/25 Feb. 81

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REMARKS DDA 80-0394 Subj: RFP of SAFE Terminals

2. to 3.

I have tentatively set up an appointment for you, Terry and Bob to meet with me on the attached memorandum for 1330, Thursday, 26 February. Please confirm that you can attend and feel free to bring anyone you would like to have attend. The meeting will be in my office.

2/26 - 1300 hrs.

STAT DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

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STAT Information Handling Systems Architect	~~7C18 Hqs~~
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Att: Memorandum to ADDA from IHSA dtd 20 Feb 81
Subj: RFP for SAFE Terminals

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04 FEB 1981

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80-0394

NOTE FOR: William N. Hart
Associate Deputy Director of Administration

STAT FROM: [redacted]
Information Handling Systems Architect

Bill

1. Talking with Terry recently, I learned that the RFP for the SAFE terminals may go out shortly. I am concerned. There are a number of serious questions that I have about the Delta Data 7260 that lead me to wonder whether we are ready to make this long-term, expensive commitment.

Although the terminal concept appears to be right-on with respect to our needs, the development seems to require a far greater investment than was anticipated and duplicates mature technology now emerging in the private sector. The imminent SAFE procurement appears to lock us in to a specific terminal, a unique terminal protocol, and a unique allocation of functions between host systems and terminals for probably the next 10 years or so. This uniqueness appears to me to commit the Agency to the development of all the needed terminal functions. I am concerned that that is a far bigger investment than we anticipated and of doubtful affordability. Even if we could afford it, the current status and recent history indicate that we are likely to end up having an all-up capability much later than we would using commercially available equipment, modified to fit our environment.

2. The 7260 is a two-sided, flexible configuration system, with a mother board that can accept additional cards to perform a variety of functions. It is thus expandable to perform a wide variety of processing and interface functions.

The version to go into BLOCK I of the SAFE (234 terminals) seems to be a "bare bones" version. As such, it is relatively economical--slightly less than $6K per unit, excluding RDT&E. While this cost looks quite attractive relative to the functions it provides, it is balanced by the rather high price of add-ons that are almost certain to be procurred, e.g., $6K for a dual floppies system needed to support most independent processing operations. I suspect that an all-up 7260 is likely to gross out at about $20K, and extensive use of a retrofitting approach would increase that.

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3. Specific questions that I have include the following:

- A unique OS was developed for the terminal, rather than applying a standard microcomputer OS like CP/M. The result is that the great community of applications packages and languages hosted by such a common OS--including word processing (WP), graphics, and compiled HOLs like COBOL, FORTRAN, and PASCAL--cannot be applied. We have to develop any such packages users want, as well as application packages such as statistical analysis and linear programming packages.

- A unique form of BASIC has been developed for the 7260. It has some special primitives that are attractive for our environment, but has been described by one trial user as "arcane." It appears to me that we are unnecessarily committing ourselves to the support of a language.

- Although graphic symbols and pictures are included, a graphics capability will not be immediately provided. I question very strongly fielding a smart terminal that does not have a graphics capability. A position that such a capability can be added later, if needed, seems very risky to me, and again commits us to expensive, unique in-house developments duplicating what is commonly available in the commercial arena. From what I can see, a graphics capability is needed now and should be in the initial version of any procured terminal. (The fact that users may not have stressed such a capability two years ago is irrelevant. NPIC, for one, needs a graphics capability now. I suspect NFAC does also.)

- Of the 64K of core memory on the processing side, all but 12K has been consumed by operational software. Since 12K is quite limited, and generally inadequate, there is talk about adding another 128K to the processing side. This would involve further RD&E investment for a new card, however, and modifications to the OS, of unknown scope.

- It was required that the 7260 emulate the DD 5000 in hardware. I don't know how readily modifiable this is, but it seems to me a modifiable emulation is needed. This would permit us to modify protocol to another standard in the future, should we wish, avoiding having to write off the terminals prematurely because of a system reconfiguration.

4. In thinking about alternatives and the realities of our environment --like meeting our terminal GFE Schedule to TRW on SAFE--there are a number of factors to consider. I believe that:

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- The immediate terminal application will be for WP, much of it not under SAFE, and analyst file manipulations, both under VM and SAFE with its SUE. A processing capability is not needed in the Block I SAFE.

- There is a need within the near term for both BASIC programming support and graphics. These two functions require a full system capability, i.e., a special card and dual floppies.

- The technology trend in large organizations is to provide distributed processing. I think that need can be met over the next five to ten years with a smart terminal configured to support compiled HOL processing, graphics, and numerous standard applications packages. If we do not meet the distributed processing need with smart terminal processors, I fear we will be forced into much more expensive and managerially difficult solutions involving distributed minis.

The consequence of these factors is that a mix of terminal capabilities is a feasible and more economical solution than buying all in the most complete configuration needed. The flexible approach is the SAFE plan, with some level of currently unplanned retrofitting to develop the needed, more sophisticated capabilities. The terminals could all be from one source, as planned by SAFE, or from more than one, as long as they are functionally compatible (including protocol). The only problem associated with different sources of terminals that I see is duplication investment in functionalities and protocols to fit our environment. I do not believe that these are likely to be significant as compared to the benefit of being able to piggy-back available technology, as long as these are only a limited number of different sources.

Bob

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